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(54) **MESOPOROUS METAL-ORGANIC FRAMEWORK**

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See application file for complete search history.

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(57) **ABSTRACT**

The present invention relates to a porous metal-organic framework comprising Al^{III} and at least one at least bidentate compound, wherein the at least one at least bidentate organic compound is a six-membered aromatic hydrocarbon ring A in which one or more ring carbons may be replaced by nitrogen and which has three substituents X and optionally one or more substituents selected from the group consisting of R, NRR', OR, SR, F, Cl and Br, where R, R' are each, independently of one another, hydrogen, methyl which may optionally be substituted by one or more fluorine atoms or ethyl which may optionally be substituted by one or more fluorine atoms and each X is, independently of the others, $C(=O)O^-$, $C(=S)O^-$, $C(=O)S^-$, $C(=S)S^-$ or a protonated form thereof. The invention further provides a process for preparing it and provides for the use of the new porous metal-organic framework.

14 Claims, 8 Drawing Sheets